Medicine at the Battle of Stalingrad

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The Battle of Stalingrad was a turning point in the Second World War. It cost more lives than any other battle—1.1 million Russian and 800 000 German[1]. Before Stalingrad, the invading German armies seemed invincible; after it, Hitler never won a significant victory.

Hitler launched Operation Barbarossa, the invasion of Russia, in 1941. Barely held off from Moscow by desperate Russian efforts and 'General Winter', his armies fell back on a defensive line, maintaining their position deep in enemy territory. The following summer, Hitler sent his forces south, determined to capture the Caucasus and ensure permanent access to oil for Germany. As the German Sixth Army neared Stalingrad, Hitler was determined to destroy the city named after his rival, while Stalin would brook no retreat, telling his generals that there was nowhere left to fall back to. With this decision, wrote John Erickson, the chronicler of the Soviet war, Stalin had committed the Russians to one of the most terrible battles in the history of war.

The Germans, led by General von Paulus, threw everything they had at the city. Soldiers were kept going with alcohol and benzedrine and by the obsession of close combat[2]. Using immense force, they drove towards the Volga banks, dividing the Russian forces and leaving them, at one point, with only 10% of the city.

Yet the Russians refused to give in, bringing their troops to the opposite bank of the Volga and shipping them in at night to what was described as a burning hell. Between 25 September and 5 October more than 160 000 crossed the Volga into the city; on some nights, up to 3500 wounded were ferried back to the safety of the eastern bank[3].

How did the medical services on the two sides cope with the multitude of casualties?

EVACUATION OF THE WOUNDED

General Smirnov, chief of the Red Army's medical services, had 119 field hospitals with 62 000 beds for casualties. The bravest figures were the medical orderlies, often women, with only the most basic training. Zinaida Georgevan Gavrielova, an 18-year-old medical student, was appointed commander of the 62nd Army's sanitary company. Her medical orderlies, few older than her, had to crawl forward under heavy fire, rescue the wounded and drag them until it was safe to carry them on their backs.

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There are any number of tales of heroic sacrifices by these orderlies to rescue wounded troops. Typical was the story of Lyuba Nesterenko, a girl nurse who, trapped in a basement, looked after 28 seriously wounded men until she died of a chest wound[4]. Gulya Koroleva, a 20-year-old serving with the 214th Rifle Division in the 24th Army, received the posthumous citation that 'she brought over 100 wounded soldiers back from the front line and killed 15 fascists herself'[2]. Kochnevskaya, another female orderly killed in action, brought 20 soldiers out of the firing line. Although wounded twice, she carried on bandaging and assisting the wounded.

Much of their heroism was wasted by the sloppy and indifferent evacuation from the Stalingrad theatre. Many of the wounded died on the banks of the Volga while waiting to be ferried across to safety. High casualty rates were suffered by the ferry drivers and many vessels carrying wounded were sunk by enemy fire. Once evacuated, casualties had to endure poor conditions in field hospitals. Despite the presence of some of the finest Russian doctors, these were described as meat-processing factories. A woman surgeon worried about the mental state of the wounded: 'They often closed in on themselves and wanted no contact with anyone else.' Yet such was the fighting spirit and patriotism of the Russian soldier that even amputees never expressed any relief at being away from the fighting. Only those incapacitated or permanently scarred 'felt that they were no longer men'[4].

Recovery of the Russian wounded was not aided by the poor rations, the best being reserved for the fighting troops (snipers got the best rations of all). If they were lucky, they got three helpings of *kasha* (buckwheat porridge) a day; a piece of salted herring was an unusual treat. To ensure that soldiers survived, medical workers gave their own blood—sometimes twice in a night, with later collapse.

As winter's grip tightened, General Zhukov secretly assembled a force of over a million men behind the Volga, including fresh Siberian troops. On 19 November, the counter-attack was unleashed. The Germans were caught unprepared and the Sixth Army was encircled in a *Kessel*—a cauldron. Pushed to their limits, they managed to hold off the Russians and settled down for a siege.

HUNGER AND VERMIN

As the noose tightened around the Sixth Army, food and medical supplies became scarce. Supply horses were

slaughtered to provide protein, the horsemeat being a few strands in a watery soup. A kilogram box of potatoes had to make do for 15 men[2]. The bread ration slid from 500 to 200 to 100 g a day. By the first week of January, it was down to 75 g—a slice only. Hunkered down in their bunkers the troops became sluggish, apathetic and miserable. Fuel supplies were non-existent. As a result, snow could not be melted and dehydration added to the misery. The soldiers shivered continuously, sleeping together on bunks to share the warmth.

In those conditions, vermin abounded and everyone was ridden with lice. When soldiers became active, their increased surface warmth would activate the lice, leading to intolerable itching. Plagues of flies gathered around the kitchens, adding to the risk of wound infection.

Rats and mice thrived. One reason the Germans could not quickly mobilize when the Russians counter-attacked was that mice had chewed through the cables of the tanks. As deaths mounted from dysentery, typhus, diphtheria, tuberculosis and jaundice, medical staff feared an epidemic. Paradoxically, jaundice was welcomed by the soldiers as it was an instant ticket to hospital; there is no record of soldiers eating picric acid from shells to simulate jaundice, as they did in the First World War.

The worsening cold, poor winter clothing and bad nutrition led to rapid frostbite. While mild cases could be treated with ointment and dressings, gangrene often set in and amputation was the only option. Soldiers died *en masse* from frostbite and hypothermia, their bodies lying everywhere. The corpses could not be buried in the frozen ground. As they died, the lice could be seen leaving the body in droves, seeking another living host.

Scenes in the German field hospitals were of unremitting misery. By 24 January nearly 20 000 men, one-fifth of the army, were lying in largely tent hospitals with the outside temperature at minus 30 °C. The lightly wounded and sick had to find accommodation for themselves. There was no food or drink for casualties. Ether, antiseptics, bandages and other medical supplies ran out. Surgery had to be done without anaesthesia. Triage was a simple process: priority for operations was given to the walking wounded; those with head and abdominal wounds were left to die.

For the Russian soldiers, the daily ration of *makhorka* tobacco was an essential comfort, and they also looked to alcohol to relieve their misery. Soldiers camped out on the icy steppe drank a litre of vodka a day. Later they turned to more dubious sources, such as antifreeze, which contained methanol; many became blind or died.

STARVATION

By December, a new phenomenon was reported to the German medical authorities[2]. Soldiers would suddenly collapse and die for no obvious reason. Dr Hans Girgensohn, a pathologist, was flown in to investigate. Under difficult circumstances, he managed to conduct 50 necropsies. The signs were unambiguous: the organs demonstrated all the changes of starvation and Girgensohn soon worked out what was happening. In an attempt to improve nutrition, the soldiers had been given tins of high-fat meat paste. In the starving body, the fat could not be metabolized and led to sudden death—a phenomenon similar to that later observed when attempts were made to re-feed inhabitants of the liberated concentration camps. The combination of stress, tiredness and cold upset the metabolism; as a result, only a fraction of the calories received were absorbed.

As the encirclement tightened, battle fatigue increased, and scurvy and pellagra increased the incidence of psychotic and delirious behaviour. Medical authorities could do little about this and the disturbed soldiers would lie ranting and raving in their bunks.

STAYING WITH THE WOUNDED

As the Russian noose tightened, access to the *Kessel* was restricted to the airfields of Pitomnik and Gumrak. Alongside the runway lay hundreds of sick and wounded, waiting to be flown to safety. Only the ambulant were taken aboard, the more seriously ill being left in the snow, where they soon perished. Several planes took off with men hanging from the undercarriage. By mid-December all the German nurses had been flown out to prevent them falling into Russian hands. But the German doctors saw a duty to stay with the wounded and, of 600 in the Sixth Army, none capable of working flew out.

When the end came, the much-feared Sixth Army was but a tattered remnant of its former self, and on 30 January von Paulus surrendered. Of 284 000 German soldiers caught in the Stalingrad trap, 160 000 were killed; 34 000 were evacuated by air[4]. The Russians found themselves with about 90 000 unwounded and 20 000 wounded prisoners on their hands. Few of the 110 000 survived captivity, the last returning to Germany only in 1956.

Acknowledgment For this essay I have drawn heavily on Anthony Beevor's magnificent work *Stalingrad* (Harmondsworth: Penguin Books, 1999) which provides not only a clear account of the events but also detailed personal stories.

REFERENCES

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